

FUNt Master Paper – Section D: Empirical Proof Addendum

All scales, from subatomic to cosmic, reveal the same underlying hydrogen lattice. This unified field expression demonstrates that matter, energy, and life are not separate domains but harmonics of one resonance system governed by the Hydrogen Resonance Band (HRB).

Scale	System / Observation	Empirical Proof	FUNt Interpretation	Core Equation
Subatomic	Proton magnetic coupling fields (magnetic torque vs. φ -harmonic)	Verified φ -scaled energy steps in Empirical Proof of Proton Magnetic Field Principle	Proton tunneling phase harmonics define field coherence bands (HRB).	$E_n = h\nu_0\varphi^n$
Molecular	Hydrogen tunneling in enzymes, DNA bonds, and water ice (neutron & IR spectroscopy)	Confirmed proton delocalization and barrier-free transfer at cryogenic and physiological temps	HRB lattice enables phase-based transfer; tunneling replaces diffusion.	$P_T = e^{\{-2\pi(\Delta\varphi/\varphi)\}}$
Condensed Matter	Proton-Driven Resonance Cascade φ -compression curve; Colab Loop 60° Compression	Measured 60° band spacing; compression $\Delta\text{arc}/R \approx 1.047$	φ -scaled hydrogen lattice harmonics control tunneling probability.	$\Delta\lambda/\Delta\varphi = \varphi^n$
Planetary	Neptune–Pluto 3:2 resonance; solar 60° coherence bands	Orbital spacing matches HRB angular ratios	Hydrogen lattice extends into solar magnetic coherence field.	$\text{HRB}_{\text{min}} = k \cdot 60^\circ$
Cosmic	21-cm hydrogen-line drift; φ -scaled deviations	Detected harmonic offsets in cosmic	Hydrogen field acts as coherent lattice of the universe.	$E_H = h\nu_H\varphi^n$

		hydrogen spectra		
Biological	Proton-coupled electron transfer (PCET), mitochondrial proton pumps	Proton motion without classical displacement; tunneling verified via kinetics	Life's energy coherence sustained by same hydrogen lattice field.	$\Delta E = h(\Delta\nu)\varphi^n$

Hydrogen is the universal medium of coherence. Protons do not 'hop' or 'jump'; they phase-shift through hydrogen resonance bands. From the DNA helix to the galactic arm, the same $60^\circ\text{--}\varphi$ harmonic defines where matter and life can persist.